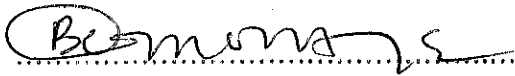
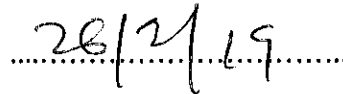


CERTIFICATION

I certify that this study was carried out by AUTA MICHAEL AZEGBEYE (PSY/14/2026) in the Department of Psychology of the Federal University Oye-Ekiti under my supervision. This dissertation work was supervised by:





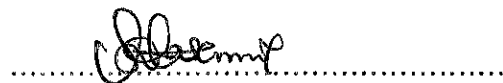
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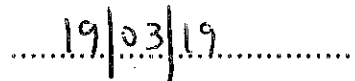
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DEDICATION

This project work is dedicated to God Almighty, my Creator and my Source. Without Him, I am nothing. I also dedicate this research work to my wonderful and loving Parents Mr & Mrs Isaiah Auta for their impact in my life.

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My profound gratitude goes to God Almighty for giving me the privilege of being alive till today and also rendering me with the ability and assistance to conduct this project successfully. Glory, honor and adoration are to His Holy name. I am grateful for the efforts of my Father, before he passed on towards my academics, without his support and care I would not have the opportunity of attending a University.

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LIST OF ABBREVIATIONS

1. African Network for the Prevention and Protection against Child Abuse and Neglect
ANPPCAN.
2. American Psychological Association. APA.
3. Applied behavior analysis ABA
4. Autism Behavior Checklist ABC.
5. Autism Spectrum Rating Scales ASRS.
6. Autism Spectrum Disorder ASD.
7. Bayley Scales of Infant Toddler Development BSID.
8. Childhood Autism Rating Scale Second Edition CARS-II.
9. Children with autism CWA.
10. Centers for Disease Control and Prevention CDC.
11. Delis Kaplan Executive Function System DKEFS.
12. Diagnostic and Statistical Manual of Mental Disorders DSM-V.
13. Gilliam Autism Rating Scale GARS.
14. Gluten-free/casein-free GFCF.
15. Kaufman Assessment Battery for Children KABC-II.
16. National institute of mental health NIMH.

17. National institute on defenses and other communication disorders NIDCD.
18. Social Communication Questionnaire SRQ.
19. Stanford Binet Intelligence Scales for Children SB5.
20. Theory of Mind TOM.
21. Weak central coherence WCC.
22. Wechsler Adult Intelligence Scale WAIS-IV.
23. Wechsler Intelligence Scales for Children WISC-V.
24. Wechsler Preschool and Primary Scales of Intelligence WPPSI-IV.
25. Woodcock Johnson Tests of Cognitive Abilities, Third Edition WJ-III.

ABSTRACT

The study investigated the Knowledge and Awareness of Autism Spectrum Disorder among school teachers in Ekiti State. The study is a school based cross-sectional study. A total of 107 teachers were sampled for the study. Knowledge of Autism Spectrum Disorder (ASK-ASD) was used to assess knowledge while an ordinary awareness questionnaire was used to assess the teachers awareness of Autism Spectrum Disorder (ASD) . Five hypotheses were tested. The result revealed that there is no significant relationship between Knowledge of ASD and respondents having relationship with children who have Autism Spectrum Disorder ($r(105) = -.113$ $p > .05$). It also revealed that there is a significant relationship between knowledge of ASD and Prior training on Autism ($r(107) = -.266$ $p < .05$). The third hypothesis tested revealed that age has a significant influence on knowledge of ASD ($F(2, 98) = 4.29$ $p < .05$). The fourth hypothesis tested revealed that School-type does not have a significant influence on knowledge of ASD ($F(2, 104) = 2.506$ $p > .05$). The study also revealed that teaching experience does not have a significant influence on teachers knowledge of ASD ($F(2,103) = 1.971$ $p > .05$). The result also shows that 96.2% of the respondents are aware of ASD while 3.8% of the respondents are not aware. It was concluded that there is no significant relationship between teachers who know someone with ASD and their knowledge of ASD. Prior training on ASD has a significant relationship with teachers knowledge about ASD. Teaching experience does not have a significant influence on their knowledge about ASD.

Keywords: Knowledge, Awareness, Autism Spectrum Disorders, Teachers, Ekiti State

Word Count: 230

CHAPTER ONE

INTRODUCTION

1.1 Background of study

The Diagnostic and Statistical Manual of Mental Disorders (DSM-V), Fifth Edition, defines an individual with autism spectrum disorder as having persistent deficits in social communication and social interaction which includes having deficits in social-emotional reciprocity, deficits in non-verbal communicative behaviors used for social interaction, deficits in developing, maintaining, and understanding relationships (American Psychological Association. APA, 2013). Autism is a pervasive developmental disorder, meaning that it is characterized by developmental delays in basic functioning such as socialization and communication (Chakrabarti, & Fombonne 2005). Pervasive developmental disorders are also called autism spectrum disorders such as Autistic Disorder (autism), Asperger syndrome, childhood disintegrative disorder, Rett syndrome, and pervasive developmental disorder-not otherwise specified (Boyse, 2008). The prevalence and incidence of autism spectrum disorder is thus greater than or equal to the prevalence and incidence of autism in any given area (Boyse, 2008). Before the release of the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders, autistic disorder was the most common autism spectrum disorder the fifth edition does not distinguish between the specific disorders (Boyse 2008). Currently, clinicians give a diagnosis of autism spectrum disorder rather than specifying autism, Asperger syndrome, or the other pervasive developmental disorders (APA, 2013).

The causes of autism are very complex and include complex interactions between genes and the environment although It is not clear whether autism is caused by rare gene mutations or by multi-gene interactions (Abrahams & Geschwind). Researchers have not

been able to trace autism to a single mutation or gene abnormality (Abrahams & Geschwind.) Although there is no agreement among researchers about the specific causes of autism, there is agreement that autism affects brain development (Muller 2007). One theory, for example, posits that mutations disrupt synaptic pathways in the brain. (Betancur, Sakurai & Buxbaum, 2009).

Autism Spectrum Disorder is called a "spectrum" disorder because people with ASD can have a range of symptoms. The symptoms range from mild to severe hence referred to as being in a Spectrum (Natalie & Moore, 2017). People with ASD might have problems talking with others, or they might not maintain eye contact while talking (Piven, Palmer, Childress & Arndt, 1997). They may also have restricted interests and repetitive behaviors (APA, 2013). They may spend a time putting things in order according to their preference, or they may repeat the same sentence over and over (Johnson, 2004). They may often seem to be in their "own world". The causes of ASD are not known (National Institute of Mental Health (NIMH), 2016). Research suggests that both genes and environment play important roles (Gardener, Spiegelman & Buka, 2010, Hallmayer, Cleveland, Torres, Phillips, Cohen & Torigoe, 2011).

The incidence of Autism Spectrum Disorders (ASD) has increased steadily over the past decade; the incidence of Autism Spectrum Disorders is estimated to be 1-2%. (Behrman, Kliegman & Jenson 2007) A systemic review of 40 studies revealed that the prevalence of ASD was 20 per 10,000 (Williams, Higgins & Brayne, 2006). The incidence of autism is more in males (Comer & Ronald, 2016). Latest estimates indicate that the prevalence of Autism Spectrum Disorders could be as high as 1 in 54 boys (Cory, Swedo & Thurm, 2014). There is strong evidence to suggest that the increase in diagnosis and identifying children with these disorders is due to greater awareness, significant changes in the criteria and improved diagnostic tools.

Although the diagnosis of autism is rising in post-industrial nations, diagnosis rates are much lower in developing nations. Reasons given by researchers for this discrepancy include more awareness and better detection in developed nations and cultural differences such that symptoms associated with autism may be considered normal behavior in some cultures (Maguire 2013). However, many scientists theorize that other factors may also be responsible for the increasing rates in post-industrial countries. Some claim that about one third of ASD is due to immune deregulations during pregnancy. That is, anything that causes an inflammatory response in the pregnant mother, such as infection or an immune disorder, may expose the fetal brain to inflammatory signals and disrupt development (Velasquez-Manoff, 2012).

Most parts of the world, including some countries that are less developed and developing ones, there seems to be increasing concern over the rise in cases of Autism Spectrum Disorders (ASD) (Martins, 2010). In some countries, these concerns have resulted in efforts to enact laws mandating early diagnosis and intervention; the provision of free, appropriate services and education for children with autism; acceptance and inclusion of such children in mainstream or regular schools; and training of special education and regular teachers on best practices in meeting the goals of each child's individualized education plan (Martins, 2010). Beginning in the United States in the early 1940s and in South Africa in the mid-1960s, serious efforts have been made in many parts of the world to recognize autism as a disability in its own class and to address its many challenges (Martins, 2010). However, the situation in Nigeria seems to hark back to pre-1943 America, when children with autism were thought to be schizophrenic or mentally retarded, and when maternal deprivation and spiritual causation held sway as explanations for its cause. In many parts of Nigeria today, particularly in rural areas, people with autism are thought to be possessed or evil (Akinyemi, Ogunleye, Olatunji, Adeniyi, & Omolayo, 2017). The level of awareness about autism in Nigeria is

pathetically low(Akinyemi et.al 2017). There are some level of awareness amongst the medical community health workers, but the extent of their knowledge is often limited(Akinyemi et.al, 2017). Most only know the symptoms and manifestations of “infantile autism”. The majority do not know that there are different forms of autism spectrum disorders (such as regressive autism); some don’t believe the condition is treatable; and nearly 70 percent have no clue as to where to refer cases and/or what to do even when sure about a diagnosis (Martins, 2010). Many children in Nigeria with autism are either not diagnosed or misdiagnosed (Martins, 2007). They end up being hidden at home or are ‘lucky’ to be categorized with the deaf and mentally ill children (Martins 2010). In rural areas, where there are no psychiatric hospitals, the majority end up on the streets, labeled ‘insane’(Martins, 2007).

Knowledge and awareness among primary school teachers may play a major role in early identification of children with ASD, unfortunately developmental disorders in children are not a health priority and most teachers are not equipped with the ability to identify developmental disabilities (Anil &Sanjeev, 2014). It is a logistical challenge for health personnel to screen and identify ASD among millions of pupils or students; the people best suited for this onerous task are elementary school teachers as they interact with students on a daily basis and are more likely to identify and monitor subtle signs or symptoms (Schanding, Nowell&Goin-Kochel, 2012). Limited research exists regarding the role of teachers in screening for Autism Spectrum Disorders (Schanding, Nowell&Goin-Kochel, 2012).

Treatments include behavior and communication therapies, skills training, and medicines to control symptoms (National Institute of Mental Health (NIMH), 2016). From 18 months of age, parents begin to show concern for the child and the average age of diagnosis is 3-5 years(Tom & Graham2007). Socially, the child find it difficult to maintain eye contact,

have meaningful facial expressions and gestures (National institute on defenses and other communication disorders (NIDCD) 2017). He or she may find it hard to play with their peers and is rather attached to objects; they may not speak clearly or not speak at all; may not be able to engage in pretend or imaginative play; may want sameness in activities like drinking from same cup every day, or wearing same clothes every day; ritualistic behavior's like opening and shutting doors and may throw tantrums occasionally for no apparent reason(Gray 1993).Autistic children in a typical school in Nigeria face a scaring challenge early on in life. They are labeled with derogatory names by parents, teachers and their peers. Autism is easily taken for something else as these children are passed on as academically backward, 'possessed' by evil spirits or suffering from some kind of parental neglect or the other(Bakare, 2014). They can even be flogged if the teacher gets nauseated by their slowness (Akintunde, 2005). Parents also have to cope with the reality of rejection from school to school of their 'slow' child and sometimes lack of empathy from authorities and other care givers and teachers. As a result of these problems, teachers may have difficulty in teaching them together with other pupils in class. In 2007, the United Nations declared April 2nd as World Autism Awareness Day to propagate the awareness of autism and to canvass for assistance and funds for research and intervention(United Nations resolution 2007). Lack of knowledge and awareness about ASD interacts with many other factors in late identification and diagnosis (Bakare, 2014).

Knowledge and awareness about this condition have been on the increase especially in the developed countries whereas these remain at lower ebb in Nigeria and other sub-Saharan African countries (Akintunde,2005). Lack of knowledge and awareness about childhood autism is thus a major barrier to improving the health and wellbeing of children affected by autism in this environment (Akintunde,2005). This further limits access to care and early

interventions that are known to improve quality of life and prognosis in children with childhood autism (Akintunde,2005).Many etiological explanations have been proposed for autism spectrum disorders based on a number of studies coming from African continent (Bakare, Ebigbo, Agomoh, Eaton, Onyeama, Okonkwo, Onwukwe, Igwe, Orovwigho & Aguocha, 2009), Discussion on these etiological explanations would be based on two major categories: etiological explanation based on opinions and etiological explanations based on scientific and clinical evidences. Etiological explanation based on opinions, a study in Nigeria assessed the opinion of health care workers, specifically nurses, on their perceived etiology of autism spectrum disorders , very significant proportion of 26.9% of the health care workers are of the opinion that etiology of autism spectrum disorders can be traced to supernatural causes(Bakare et al, 2009). About fifty eight percent of these health care workers subscribed to natural causes as explanation for etiology of autism spectrum disorders, while 14.2% subscribed to preternatural causes, with rational explanations as yet unknown (Bakare et al, 2009). The preternatural and supernatural etiological explanation for autism spectrum disorders as found in this study is further substantiating the inseparable spiritual beliefs of Africans as it relates to etiological explanations for neuro-psychiatric disorders(Bakare et al, 2009a). Genetic factors had been known worldwide to play a significant role in occurrence of autism spectrum disorders (Smalley, 1991; Muhle et al, 2004). Although the heritability of autism has been estimated to be as high as 90%, the genetic factors are heterogeneous, complex, and for the most part poorly understood. Epigenetic and environmental factors are also etiologically significant in autism (Muhle et al, 2004). The precise mechanisms of genetic inheritance of autism are presently being explored through methods of genome wide screening, cytogenetic studies, and evaluation of candidate genes (Muhle et al, 2004). Evidence is accruing of similar genetic influences among African children as

well (Arieff, 2010; Mostafa&Shehab, 2010). Auto-immune factors Auto-immune factors have also been hypothesized as possible etiological explanations for autism spectrum disorders (Arieff, 2010). The proposition of auto-immune factors as etiological explanation for autism spectrum disorders in Africa had largely been derived from studies coming from Egypt (Mostafa & Kitchener, 2009; Mostafa & Shehab 2010).

The findings of many studies in Nigeria show a low level of knowledge and awareness about autism spectrum disorders in Africa, thereby compromising early recognition of the disorder and intervention to alleviate symptom severity (ANPPCAN, 2007; Bakare et al, 2008; Bakare et al, 2009b; Igwe Ahanotu, Bakare & Achor, 2010; Akinyemi et al 2017). African Network for the Prevention and Protection against Child Abuse and Neglect (ANPPCAN), Nigeria chapter, in a World Bank sponsored program carried out a survey to determine the level of knowledge and awareness of health care workers and the general public in Enugu, south-eastern Nigeria about autism spectrum disorders (ANPPCAN, 2007). The findings of the survey showed that there is very low level of knowledge and awareness about autism spectrum disorders among the general populace and a low to average level of knowledge and awareness among various categories of health care workers, with highest level of knowledge and awareness found among those health care workers working in psychiatric facilities (ANPPCAN, 2007). Using the template of findings and observations made during the ANPPCAN's study, a standard questionnaire for assessing knowledge of health care workers about autism spectrum disorders, aimed at early recognition was designed and validated (Bakare et al, 2008). Subsequent study done following ANPPCAN survey consistently was showing the same trend of low level of knowledge and awareness about autism spectrum disorders among the healthcare workers (Bakare et al, 2009b). It was further established that the ability of healthcare workers working in psychiatric facilities to

recognize symptoms of autism spectrum disorder was better than their counterparts working in pediatric units/departments (Bakare et al, 2009b).

Since Leo Kanner's paper titled, "Autistic disturbances of affective contact" about seven decades ago (Kanner, 1943), awareness and further research about childhood autism have continued to grow globally. There had been observation that the prevalence of childhood autism and Autistic Spectrum Disorder (ASD) were on the increase worldwide. This prevalence increase had also been thought to be attributable to increased knowledge and awareness among health workers and possible adoption of broader criteria in making the diagnosis (Fombonne, 2003).

While knowledge and research on childhood autism and ASD are on the increase in parts of the world, knowledge and research about this condition are limited in Nigeria and other Sub-Saharan African countries (Dhadphale, Lukwago, Gajjar 1983). Possibly because of the limited research and knowledge about childhood autism in Sub-Saharan Africa, the occurrence of this condition among Africans and universality of childhood autism had been queried (Sanua, 1984). However, there is no doubt that childhood autism occurs among Africans (Bakare&Ikegwuonu. 2008). The recognition among health workers in this region may just be low because of low level of awareness and knowledge (Bakare&Ikegwuonu. 2008). Also, childhood autism and other related syndromes associated with mental retardation rarely comes to the attention of clinician in Nigeria possibly because of discrimination and stigmatization associated with the etiological explanation of these syndromes which in turn influence the help seeking behavior (Bakare&Ikegwuonu. 2008). The evidence of low level of awareness and rare presentation to clinicians in this part of the world can be seen in the reported cases from Nigeria where the patients were coming in contact with orthodox care for the first time as adolescents (Bakare&Ikegwuonu 2008)

1.2 STATEMENT OF PROBLEM

There is a rise in awareness and prevalence of autism in the western world and some parts of Africa (Centers for disease control and prevention CDC, 2009). However, apart from few individuals and non-governmental organization efforts, only few states in Nigeria have embarked on the campaign for autism awareness. Up to this time, there has been virtually less awareness or sensitization to recognize neuropsychological disorders in Pupils and Students at any level of the country's educational system (Bakare & Ikegwuonu, 2008). Another issue is the level of preparedness of our teachers to cater for the educational and social needs of these children is poor (Paul & Gabriel-Brisibe, 2014). The puzzling situation is that it is believed that the umbrella term 'special needs school' should cater for all disabled children but our schools have lesser facility to cater for the blind, deaf and lame, more so, many others who are all lumped into one classroom for the mentally retarded (Paul & Gabriel-Brisibe, 2014). It is difficult to give specialized attention to those who have impaired communication, social interaction and imaginative functions with no obvious physical disability as is the case in autism, the subject of this research. Furthermore, in Ekiti State, there is little data with which to canvass for assistance for autism, due to lack of awareness amongst teachers, researchers and even health personnel (Foluke & Margaret 2017). There is no active surveillance as in other parts of the world where major efforts and funds are being put in to fund research into autism. There is evidence that early identification and intervention can help individuals overcome many of the symptoms and lead a productive and successful life. Children with autism spectrum disorders (ASDs) may experience high levels of stigmatization in society. Stigma may affect not only autistic individuals but also the family as well (Gray, 1993). Such families often find that public reaction to them is stereotypical and negative (Gray, 1993). Children with Autism are seen as being possessed, stubborn and ill mannered, thus they are often

maltreated or neglected in schools, some schools can't cope with their behaviors hence making their parents to change school often for them, some are hidden at home by their parents because of the shame thus making them not to have a standard life (Bakare 2009).

Therefore the research tends to answer the following questions

- Is there a relationship between teachers who have a friend or family with ASD and their knowledge about Autism Spectrum Disorder?
- Will there be a relationship between teachers' knowledge of Autism Spectrum Disorder, and those who have prior training on Autism Spectrum Disorder?
- Will teacher's age influence their knowledge of Autism Spectrum Disorder?
- Will school type have an influence on teacher's knowledge of Autism Spectrum Disorder?
- Will teachers teaching experience influence their knowledge about ASD?

1.3 RESEARCH OBJECTIVES

- To examine the relationship between teachers who have a friend or family with Autism Spectrum Disorder and their knowledge of Autism Spectrum Disorder.
- To examine the relationship between teachers prior training and their knowledge of Autism Spectrum Disorder.
- To examine the influence of teachers age on their knowledge about Autism Spectrum Disorder.
- To examine the influence of school type on teachers knowledge of Autism Spectrum Disorder.
- To determine if teachers' teaching experience will have an influence on knowledge about ASD.

1.4 SIGNIFICANCE OF THE STUDY

Findings from this study will be significant to some parties in Ekiti state and Nigeria as a whole including the health care team, Non-Governmental Organizations, media, government, professionals, educators and parents as well as the public. By assessing the knowledge of Autism Spectrum Disorder among teachers ^{will} ~~to~~ promote awareness ~~and~~ ^{and} training, it is expected that the school teachers will no longer have the bad impression towards the autistic individuals. With this study, there is also hope that the teachers will not only feel empathy for autistic children but also feel responsible for them, by also learning how to tolerate them. There is a misconception about children with Autism spectrum disorders making them to be alienated by their peers, parents, caregivers and teachers due to the knowledge they have about the disorder. The significance of this research is therefore to establish if demographic variables such as teachers' age, school type, prior training and experience will serve as criteria for teachers in Ekiti State to have knowledge about Autism Spectrum Disorder.

CHAPTER TWO

LITERATURE REVIEW

2.1 THEORETICAL FRAMEWORK

2.1.1 THEORY OF MIND

Theory of Mind (ToM) or "mentalising" is the ability to take account of one's own and others' mental states in understanding and predicting behaviour (Leslie & Frith, 1988). Children with ASD have been reported to have an under-developed ToM, in other words, they have difficulties in understanding the thoughts and feelings of other people around them or in their environment at large, they may also have difficulty with showing empathy and often feel puzzled by other people's behaviour (Baron-Cohen, 1989; Ozonoff & Miller, 1995).

The widespread view in the developmental literature is that, although somewhat complicated by developmental factors and type of ToM task, individuals with ASD demonstrate an apparent inability to think about thought. In order to determine ToM ability psychological research has employed a variety of first-order and second-order tasks, the participants view about what one person thinks about another's thoughts is assessed (Baron-Cohen & Jolliffe, 1997). Most typically developing four year olds pass such tests however in a study by Baron-Cohen (1989) the majority of children with ASD, irrespective of intellectual ability, failed to represent another's mental state. On the contrary, subsequent studies found out that some adults with high functioning autism and Asperger's Disorder passed the first-order and second order ToM tests (Bowler, 1992; Ozonoff & Rogers, 1991), this gave rise to the suggestion that these skills may develop later on for the person with ASD. However, in support of Baron-Cohen's (1989) findings, a number of studies which were successful was conducted by (Brent, Rios, Happe, & Charman, 2004; Happe, 1994; Klin, 2000 as cited in Brent et.al, 2004) the study incorporated both children and adults, demonstrated

significantly that those with ASD have underdeveloped ToM. These results suggest that individuals with ASD experience difficulty in understanding that people may have different and diverse beliefs about a situation.

Theory of Mind: Impact on Education and Learning

Baron-Cohen (2001) postulated various manifestations of ToM in children with ASD. Four of these will be reviewed in an attempt to illustrate how an impaired and underdeveloped ToM may affect learning in the classroom: (1) structural components of language, (2) social interactions in the classroom, (3) Understanding deception, and (4) impaired imagination.

Structural components of language - The area of pragmatics, where communication relies upon 'higher-order' abilities as a result of the interaction of numerous cognitive systems, has been characterized as the interface between social, cognitive, linguistic and emotional development (Baron-Cohen, 1989; Leslie & Frith, 1988). Individuals who have high functioning autism or Asperger's disorder the basic structural components of language are intact, but the ability to use language to engage socially is impaired (Kasari & Rotheram-Fuller, 2005). Happe (1993) established a link between deficits in Theory of Mind and pragmatic understanding in individuals with ASD when individuals who passed first-order ToM tasks did well on interpreting metaphors (such as "she has a sharp tongue!"), but could not comprehend irony ("How clean your room looks today!"), attributing a literal meaning to the speaker. Only those participants who passed second-order Theory of Mind tasks could understand not only similes and metaphors but ironical utterances as well. Thus, in order for individuals with ASD to understand figurative language is highly dependent on their ability to understand others mental state (Happe, 1993). Whether ToM must come first in order to develop social communication skills or whether social communication actually leads to proficient ToM reasoning is, still unclear.

Social interactions in the classroom - In demonstrating an impaired ToM, children with ASD often exhibit an inability to fully comprehend social interactions in the classroom (Jordan, 2005). This is often due to challenges associated with solving problems in a sensible and practical way such as adapting the content of one's speech to what one already knows or doesn't know, respecting conversational precepts, having difficulty with turn-taking, poor topic maintenance in conversation, and inappropriate use of eye contact (Curnine, Leach, & Stevenson, 2001). Evidence of the latter was found when, Klin, Jones, Schultz, Volkmar, and Cohen (2002) eye-tracking technology discovered that adults with Autism Disorder looked less at the eyes of someone communicating with them and more at the mouth, body and objects than control participants did when viewing social scenes. However, research has also shown that when individuals with ASD do look at someone's eyes, they are less able to read the meaning in the eyes than control participants (Baron-Cohen & Jolliffe, 1997). Children with ASD have also been found to be impaired in gaze-direction which helps to establish when someone is thinking about something or to work out which of several objects someone wants, or might be referring to (Baron-Cohen, 2001). Findings on eye contact and gaze-direction support ToM, people with ASD find it difficult to maintain eye contacts (Baron-Cohen, 2001). These results may also explain why social interactions within the classroom are often misunderstood by the child with ASD as they are unable to comprehend it (Jordan, 2005).

Understanding deception - Another social-cognitive difference in children with ASD, connected to ToM, is the difficulty they have in understanding deception, in other words they lack the ability to deceive others and know when they are being deceived (Baron-Cohen, 1992). Deception is an important factor to understanding others' minds because it is based upon the belief that we can change another's mind. For example, we can make a certain individual believe that something is true when in fact it is false. While an inability to deceive

may not seem like a negative attribute, there are cases when it may be worse to hurt someone's feelings by telling the truth, than to lie (for example, to be polite we may say that we like someone new shoes or present that they have bought us, when in reality we don't): Typically children learn to distinguish some lies told to offer mannerisms or as a result of being polite from other lies, however developing such social skills and social cognition tends to be impaired in children with ASD (Baron-Cohen, 2001).

Impaired imagination - An impaired imagination in children with ASD has also been observed and demonstrated in children with autism (Craig, 1997 as cited in Baron-Cohen, 2001; Scott & Baron-Cohen, 1996). Imagination is relevant to ToM because one is able to access the unreal world that exists purely in their mind, a realm of fantasy or make believe and as such is able to reflect on one's own mental state of imagining. Imagination is often required to complete tasks in schools (for example, creative writing and drawing). Failure to grasp such concepts may be confusing and frustrating for the child with ASD who is limited in this sphere. Imagination is also related to spontaneous pretend play, a defining feature of ASD (Baron-Cohen, 2001). In contrast to the rich social and imaginary play of typical children, the play of children with ASD is remarkably detached and rigid, and this may likely affect the formation of peer relationships (Wolfberg, 2003). However, whether this feature is actually a deficiency in ToM has come into question. A child may in fact be experiencing difficulty in switching from 'reality mode' to 'pretend mode' and therefore a lack of pretend play may essentially result from an executive function deficit (Russell, 1997). There is a relationship between ToM and the social and communicative challenges that children with ASD inherently face with. In the manifestation of such social communicative deficits, it is not surprising that children with ASD frequently fail to understand the communicative intentions of much of classroom languages (Jordan, 2005). Likewise, the difficulties in pragmatics and in understanding deception may be contributing factors to the ongoing

difficulties these children with ASD experience in developing peer relationships (Wetherby et al., 2007). It may also explain the high incidence peer shunning and victimization of children with ASD experience in school settings (Little, 2002)

2.1.2 WEAK CENTRAL COHERENCE THEORY

This cognitive theory of autism views the socio-emotional deficit in terms of weak central coherence (WCC) (Frith, 1989). According to this theory, a weakness occurs in the operation of central systems that are normally responsible for combining individual pieces of information to establish a particular meaning. For individuals with autism this piecemeal approach to stimulus processing means that they are extraordinarily capable of attending to details, but demonstrate considerable challenges perceiving or understanding the overall picture, or 'gist' (Attwood, 2007; Plaisted, Saksida, Alcantara, & Weisblatt, 2003). Proponents of this theory argue that other ASD features such as hyper or hypo-arousal to sensory stimuli, extreme sensitivity to small changes in the environment, and circumscribed interests can also be explained by WCC (Hoy, Hatton, & Hare, 2004). Studies investigating WCC used a variety of experimental tasks in order to examine different processing domains. Support for this cognitive theory has been found in studies using visuospatial tasks, for example, individuals with ASD have divided a design or figure into its constituent parts faster than control participants (Happe, 1999; Shah & Frith, 1993). In addition, Shah and Frith (1983) found children with autism showed significant differences compared to normally developing children in abilities related to segmentation on the Wechsler Block Design task of the Wechsler Intelligence Scale for Children (Wechsler, 1981). Expelling the notion that WCC is a function of intelligence, individuals with both low and high functioning autism have also been found to perform extraordinarily at the Embedded Figures Test, whereby a small shape must be found inside a large shape (Happe, 1994; Joliffe & Baron-Cohen, 1999). In

examining verbal-semantic coherence, it has been discovered that individuals with ASD do not make use of semantic or grammatical relations in memory (Hermelin & O'Connor, 1967 as cited in Hoy et al., 2004). Instead, piecemeal processing is given forechoice over contextual meaning, for example, individuals with ASD will recall the details of a story rather than the general story and thus exhibit a weak central coherence (Hill, 2004).

Weak Central Coherence: Impact on Education and Learning

The central coherence theory can offer insight into the specific social and communication problems of people with autism, particularly because a weaker drive for central coherence leads to problems in making sense of a particular scenario and, consequently, in relating to others (Noens & van Berckelaer, & Onnes, 2004). With a primary feature of language being its reliance context (Sperber & Wilson, 1986), studies show that children with ASD are unable to use context to access the less common but more appropriate meaning (Frith & Snowling, 1983; Jolliffe & Baron-Cohen, 1999).

Due to having a detail-processing bias, information is likely to be stored differently typically developing children who process information more globally, which, for the child with ASD, can lead to very different comprehension and learning (Frith & Happe, 2004). In a study by Diehl, Bennetto and Carter Young (2006) children with ASD were less likely to use the "gist" of the story to organize their words coherently than their neurotypical peers. These results is in resonance with the assumption that if words are being read or remembered in a list-like manner, then even the most fluent reader will not be able to extract meaning (Frith & Happe, 2004). As curriculum material in schools has been developed to correspond with the learning style of neurotypical children, learning can be extremely challenging for the child who processes information atypically (Jordan, 2005), while the long term impact of weak central coherence has not been researched, what is known is that it may create very different memory systems to those developing more typically (Frith & Happe, 2004).

Certainly the extent that children with ASD understand speech is often overestimated, those with a speech that is functional often exhibit limited understanding of instructions or information (Noens & van Berckelaer-Onnes, 2004). Due to their detailed processing ability and reoccurring prescribed interests, children with ASD are often clear and effective about certain topics. As a consequence teachers are often not prepared for the very basic communication failures that commonly occur (Starr et al., 2001). These children often require specific prompts to attend and comprehend, and due to their propensity to focus on details they may require time to process language and information than their typically developing peers (Attwood, 2007). Focusing on detail however can certainly have its advantages and savant skills (e.g., maths or music) and 'islets of ability' (such as performance on visuospatial tasks) may often be seen in children with ASD (Happé, 1999). Due to these strengths, Happé suggests that the central coherence account of autism be viewed as a cognitive style rather than cognitive deficit

2.1.3 EXECUTIVE FUNCTION THEORY

Executive function' (or executive dysfunction, as it is frequently termed) is an inclusive term referring to a set of abilities that allow individuals to achieve a particular goal (Welsh & Pennington, 1988). These abilities include functions such as planning, working memory, impulse control, inhibition, self-monitoring, generativity and mental flexibility (Griffith et al., 1999). It has been proposed that executive impairment is a reflection of abnormality in the frontal lobe and is accountable for the repetitive and restricted behaviour in autism (Happé, 1999). The notion on executive dysfunction as a causal factor in autism spectrum disorders is a subject of controversy (Griffith et al., 1999) however it has been demonstrated that executive function deficits play a role in the social and cognitive deficits observed in school-age children with ASD (Ozonoff et al., 1991). A lot of empirical studies have demonstrated these impairments in executive function in school-age children,

adolescents and adults with ASD when they were compared to a variety of control groups (Bennetto, Pennington, & Rogers, 1996; Ozonoff & Miller, 1995; Ozonoff et al., 1991). When compared to children and adults with other developmental disabilities (e.g. ADHD, conduct disorder and Tourette syndrome), executive function in children and adult with autism was found to be more impaired severely (Pennington & Ozonoff, 1996). Initial studies with early school-age children (mean age of 5.4 years) reveal specific deficits (e.g., planning and cognitive flexibility) in children with ASD (Dawson, Meltzoff, Osterling, & Rindaldi, 1998; McEvoy, Rogers, & Pennington, 1993). However, there is an evidence that pre-school age children (3.5-4 years old) with ASD, fail to demonstrate specific deficits in executive function (e.g., working memory and set-shifting/ flexibility). Younger children with ASD perform similarly to mental-age-matched controls, while older children and adults tend to perform significantly worse than mental-age-matched controls on executive function tasks such as flexibility and planning. It has therefore been suggested by Yerys, Hepburn, Pennington, and Rogers (2006) that executive function deficits may actually be secondary to autism and emerge over the course of development.

Executive function theory: Impact on learning and education.

It appears that executive dysfunction may be a component of ASD, it is not clear as to whether executive impairment is a causal factor contributing to communication difficulties in this population. Poor executive function may however have an impact on a child and learning in the classroom. In the early years a child with ASD is likely to have difficulties with inhibiting a response (i.e., impulsivity), working memory and using new strategies (Attwood, 2007). As a child gets older, difficulties in planning and organization are often clear, as well as problems with time-management, prioritizing, understanding abstract concepts and self-monitoring (Attwood, 2007; Cumine et al., 2001). Learning in the classroom may be impeded due to the child's inability to shift between activities. For example, a study by Green,

Sigafoos, Pituch, and Itchon (2006) assessed the flexibility in individuals with developmental disabilities and found that individuals with Asperger's disorder showed the most problems in relation to the insistence on sameness, by individuals with autism and Down syndrome, respectively. The result that higher functioning children were more affected by these events reflects a preliminary study Bartak and Rutter (1976) which found higher-functioning had more problems coping with new situations than did lower-functioning children. It may well be, as suggested by Wolf and Chess (as cited in Green et. al., 2006), that children with less severe disabilities appear to have more complex fixations than their lower-functioning peers. This creates a difficulty in transferring attention from one focus to another, simply an inability to view the wholeness of a situation or task which suggests evidence of executive dysfunction and weak central coherence. A developmental argument here is certainly conceivable considering that young children with ASD consistently fail to demonstrate specific executive function deficits. A relationship between cognitive flexibility and social impairments in ASD was postulated to exist in a study by Ozonoff (1995). Traditionally, cognitive flexibility is often assessed using shifting tasks presented by a researcher. In this study however, tasks were presented by a computer. Hence the demand to interact socially was removed for the young adults with ASD and as a result their performance improved. Perhaps the removal of extraneous processing demands that arise from social settings may assist people with ASD maximize their compromised executive skills (Frith&Happe, 2004).

2.2. REVIEW OF RELATED STUDIES

Over the decades, various empirical studies had been carried out in relation to the knowledge and awareness of autism spectrum disorder in various settings/field such as schools, health-care system etc. This review serves as a guide in conducting the present study.

These related empirical studies include:

2.2.1 Teachers' Perceptions of Autism Spectrum Disorder: An Analysis of the Relationship among Teachers' Knowledge, Exposure, and Attitudes

2.2.2 The Knowledge and Awareness of Autism Spectrum Disorders within the Hispanic Community.

2.2.3 Awareness Regarding Autism in Schools' Teachers

2.2.4 Teachers' knowledge and perceived challenges of teaching children with autism in regular primary schools

2.2.1 Teachers' Perceptions of Autism Spectrum Disorder: An Analysis of the Relationship among Teachers' Knowledge, Exposure, and Attitudes

In a study by Nicole Jones (2015), it explored teachers' knowledge of the causes, characteristics, assessment, and treatments of autism spectrum disorder. This study also examined teachers' experiences and perceptions of the factors that can be a contributing factor causing the disorder to occur. Results showed that, although special educators scored significantly higher on their knowledge questions as compared to the other three roles, general scores were low in terms of the participants' knowledge about the disorder. In terms of causality, no relationship was found between experience, training level, and perception of causality of autism spectrum disorder. It was concluded that School psychologists and other related service providers should consider collaborating to create a professional development and training for staff in their schools to address the lack of knowledge and help aid in the

understanding of characteristics and interventions (Nicole Jones 2015). Educators were asked to answer questions regarding their ideas about the rates, characteristics, causes, assessment, and treatment of ASDs. None of the participants reported that the prevalence of an autism diagnosis has decreased, which shows that the participants know it is a growing concern. Most participants (57.6%) reported that autism has increased by only 25%, when in fact it has increased by 50% (CDC, 2014). Although participants knew the increase in diagnosis is of growing concern, they underestimated the increase. However, 96.5% of the participants correctly identified that boys are more affected than girls (CDC, 2014).

2.2.2 The Knowledge and Awareness of Autism Spectrum Disorders

Based on past research of several different populations, it appears that there is a general lack of knowledge and awareness of Autism Spectrum Disorders (ASD's) (Bakare et al, 2009b, Akinyemi et al (2017), Busby, Ingram, Bowron, Oliver, & Lyons (2012), Syriopoulou-Delli, Cassimos, Tripsianis, & Polychronopoulou, 2012). However, in order for people with autism to receive proper diagnosis, treatment, and have a high quality of life, it is important that everyone is aware and has a high level of knowledge of autism. This study sought to measure the level of awareness and knowledge of autism in the Spanish speaking community through a survey that addressed the characteristics and misconceptions of autism (Chelsea & Daugherty, 2012). The results showed that the majority of respondents correctly identified the characteristics of autism and correctly identified misconceptions as false. The results also showed that respondents had less knowledge of the misconceptions of autism than the characteristics of autism. This reveals that more information should be readily available about the misconceptions and characteristics of autism in order to ensure that those with autism are properly diagnosed, treated, and have a high quality of life (Chelsea & Daugherty, 2012).

regular primary schools in Dar es Salaam region were interviewed along various aspects related to their knowledge and perceived challenges of teaching CWA. The study revealed that most of the primary school teachers had low knowledge about children with autism. The findings also found that there were many factors some of them being lack of in-service training and lack of seminars which were among the challenges towards teaching CWA in regular classes. The study further found that unlike other factors, provision of regular in-service training and workshops could help many teachers gain appropriate knowledge and skills in teaching CWA in different regular classes. It is concluded that effective inclusive education is still facing a lot of challenges to make it a reality. Therefore, the study recommends that different educational stakeholders should work hand in hand with teachers so as to let every child with and without autism learn and enjoy the benefits of education in regular schools.

2.2.5 PREVALENCE OF AUTISM SPECTRUM DISORDER

When the DSM-V was published, the APA reported that the frequencies have approached 1% of the population (APA, 2013). As at 2014, the Centers for Disease Control and Prevention (CDC, 2014) reported that one in 68 children have been identified as having a spectrum disorder, which is about 14.7 per 1,000. To put this statistic into perspective, when the CDC began collecting data in 2000, one in 150 children had been diagnosed, which is about 6.7 per 1,000. Throughout the years, autism has continued to be a disorder that affects male individuals more frequently than female individuals. A recent report stated that male individuals are five times more likely than female individuals to have the diagnosis (CDC, 2014). All groups of people are affected, regardless of culture. Studies performed within 2010 until 2014 showed rates of 26.4 (per 1,000) in South Korea, 11.3 in the United States, 6.9 in Denmark, 5.1 in Australia, 2.9 in Taiwan, and 0.1 in Oman (CDC, 2014). Samadi,

2.2.3 Awareness Regarding Autism in Schools' Teachers

This study was undertaken at District Lower Dir, Khyber Pakhtunkhwa, Pakistan in order to assess the knowledge and perceptions of schools teacher regarding autistics, in public and private schools. This cross sectional study was conducted through purposive sampling among 240 teachers using self-administered questionnaire. The questionnaire was having questions for investigating teachers' knowledge and perception about autism. The collected data was analyzed by using SPSS (Version 20). The results of the present study showed that 47.5% (114) teachers know about autism through media (64.04% (73) through print media and 35.96% (41) through electronic media) while 8.75% (21) teachers know of it through trainings. Of the total 17.50% (21) public and 10.83% (13) private schools' teacher were of the opinion that autism is curable. A major portion, 42.92% (103) of the recruited teachers (46.67% (56) public and 39.17% (47) private schools' teachers) said that there should be separate schools for autistics while 57.08% (137) of the total teachers (60.83% (73) public and 53.33% (64) private schools' teachers) were of the opinion that managing autistics comes with prior training. The study concluded that there is a lack of awareness regarding autism among teachers from both the sectors, yet public schools' teachers were better aware. School implemented proper training, workshops and seminars are suggested to train teachers for autism diagnosis and teaching autistics accordingly.

2.2.4 Teachers' knowledge and perceived challenges of teaching children with autism in regular primary schools.

This study was conducted in 2015 by Edward Geraldinaan assistant lecturer at the University of Dodoma Tanzania study employed a phenomenological design with semi-structured interview to explore teachers' knowledge and perceived challenges of teaching children with autism (CWA) in regular primary schools. A sample of 16 teachers from three

Mahmoodizadeh, and McConkey (2011) reported a rate of 0.6 in Iran, In 2006, Baird et.al. (as cited in Sipes et al., 2011) reported a rate of 11.6 in the United Kingdom. Despite the difference in rates across the world, medical tests have shown a new light on possible causes of autism, which is not tied to a specific culture. The severity of the characteristics may be affected by culture, but the same factors are appearing as common causes across the world.

2.2.6 CAUSES AND RISK FACTORS

People have different opinions regarding the causes of autism and the features that appear at different times. Researchers and scholars have noted that there are two different types of autism depending on when the characteristics first begin (Goin-Kochel& Myers, 2005). The first type was coined congenital and means that the child had the signs from birth as a result of a neurological impairment and the second type, called regressive, this came into light in the 1950s. In this type, the child appeared to typically develop, but started showing concerns and regression in behaviors after a couple of years. Harper and Williams in 1975 reported that the children who developed the regressive type seemed to have had a vulnerability to developing these characteristics based on the environmental factors involved but lacked the neurological impairment. The regression seemed to be most common between the ages of 30 to 38 months.

Heredity and Genetics

One possible cause of autism seems to be genetics. Genes are passed down from person to person and does not rely on environmental factors in order to become apparent. Landrigan et al. (2012) reported both heredity and environmental factors as possible causes. Some studies have identified chromosomes that are related to autism, while others have identified certain gene mutations. These authors reported that not one single factor, but a combination of many factors, accounts for autism occurring genetically. Very recently,

Napoli, Wong, Hertz-Picciotto, and Giulivi (2014) performed a study in which they found associated mitochondrial deficiencies in children with autism. Cells of those children in comparison to cells of children without the deficiencies were slower to respond to infections and slower to repair any damage that viruses created. Consequently, the child's brain neurons were not being restored as quickly as they should have been.

The lack of restoration has a direct effect on the severity of the child's characteristics. Certain risk factors may affect the chances of a child having symptoms of autism, aside from prenatal exposure to the items described in the next section. The APA (2013) reported that studies have shown a 37 to 90% chance of a relative having the disorder.

Vaccination

Vaccines are a more frequently looked upon when discussing causes of autism (Gerber and Offit, 2009) performed a meta-analysis in which they researched articles that compared (a) children with autism who received the measles-mumps-rubella (MMR) vaccines versus controls and (b) children with and without autism who received vaccines with and without mercury. Thirteen studies performed across the United Kingdom, United States, Canada, Finland, and Denmark showed no association between MMR and autism. To further investigate vaccines and specifically look at the mercury intake, which is not included in MMR, seven studies were performed across the same countries and also found no association. Uno, Uchiyama, Kurosawa, Aleksic, and Ozaki (2012) also found no relation between MMR and autism in children in Asia. Gallagher and Goodman (2010) tested the same idea with the hepatitis B vaccine, but found that boys who received the vaccine within the first month of life were three times more likely than boys who did not receive the vaccine within the first month of life to get diagnosed with autism later in life. Autism seems to be caused by a number of factors, including genetics and environmental toxins. Much research is

still being performed to look for specific causes of the disorder. Because autism seems to be affected by many factors, a specific cause may never be found. However, knowing some of the causes can still assist obstetricians in helping their pregnant patients provide a healthy womb for their child.

Assessment

The assessment of autism can take place in both private settings and the public school system by a number of individuals. Evaluations can be completed by psychiatrists (who use DSM-5 criteria), private-setting psychologists (who use DSM-5 criteria), school teams (which use IDEA criteria), pediatricians, and neurologists. The school team usually consists of the child's teacher, school psychologist, speech and language therapist, occupational therapist, and physical therapist, depending on the need of the child. Those who use DSM-5 criteria can make a diagnosis of autism, whereas those who use IDEA criteria report whether or not the child is eligible for special education under the educational disability of autism. Children are not diagnosed by IDEA (Aspy & Grossman, 2007). Although the terminology of the result may be different, the assessment is typically the same. Information from a variety of areas is assessed to determine a profile of strengths and needs. An evaluation should include a developmental history and interview obtained from the parent/guardian; observations of the child; and formal assessments in social skills, communication, sensory needs, social-emotional skills, cognitive abilities, and adaptive behavior (Aspy & Grossman, 2007). The evaluator should choose instruments for the actual evaluation based on the child's overall level of functioning. A number of cognitive assessments can be used for early development (e.g., Bayley Scales of Infant Toddler Development (BSID), Wechsler Preschool and Primary Scales of Intelligence (WPPSI-IV), Stanford Binet Intelligence Scales for Children (SB5), early and middle childhood (e.g., Wechsler Intelligence Scales for Children (WISC-V), Woodcock Johnson Tests of Cognitive Abilities, Third Edition (WJ-III),

Kaufman Assessment Battery for Children (KABC-II), and adolescence/adulthood (Wechsler Adult Intelligence Scale (WAIS-IV), Kaufman Adolescent and Adult Intelligence Test). A number of neuropsychological assessments also can be used (e.g., Developmental Neuropsychological Assessment (NEPSY-II), Delis Kaplan Executive Function System (DKEFS). Speech assessments should investigate the use of receptive language, expressive language, and pragmatic/social language and can include the following: Clinical Evaluation of Language Fundamentals, Comprehensive Assessment of Spoken Language, and Peabody Picture Vocabulary Test (Saulnier&Ventola, 2012).

Behavioral observations are important while assessing for a spectrum disorder because cognitive and speech assessments do not cover all aspects of the characteristics of autism. Atypical behaviors can be assessed using the Behavior Assessment Scale for Children, Child Behavior Checklist, or Conners. The school team may also conduct a functional behavioral assessment to determine the triggers and frequency of behaviors. Adaptive behaviors can be assessed through the Vineland Adaptive Behavior Scales, Adaptive Behavior Assessment System, and Scales of Independent Behavior. Rating scales used specifically for autism spectrum disorders include the Social Communication Questionnaire (SRQ), Childhood Autism Rating Scale Second Edition (CARS-II), Gilliam Autism Rating Scale (GARS), Autism Behavior Checklist (ABC), and Autism Spectrum Rating Scales (ASRS), (Saulnier&Ventola, 2012).

Once an assessment is completed and the child's learning profile, adaptive skills, behavior, and autism characteristics have been determined, the parents may choose to go a step further. However, before the next step is taken, the child must receive a comprehensive evaluation that includes all of the information just mentioned, as doing so will not only give a clear picture of the child, but also allow for practitioners to pinpoint the exact areas that need to be improved.

Treatment & Early Intervention

A number of different treatments could assist children with autism (Nicole Jones, 2015). However, one should keep in mind that not all of the following are available to all children based on their financial resources, community resources, and level of severity. Infants and toddlers who have a diagnosis of autism can be eligible for early intervention services from birth until three years old depending on the state in which the child is receiving services. Such services include speech and language therapy, occupational therapy, and physical therapy (Myers & Johnson, 2007). Although much information points to early intervention as the best approach, Camarata (2014) completed a meta-analysis and found no such data to support this conclusion. He reported that early intervention is believed to be a great service offered to children, but he is skeptical of the studies that have been put forth to support that belief. He outlined the numerous flaws in the design methods across studies. Koegel, Koegel, Ashbaugh, and Bradshaw (2014) rebutted Camarata's article, however, they reported that before the most recent comprehensive intervention programs became available, outcomes were bleak for children with autism. The authors found numerous studies that supported a number of interventions, including parent education and interventions to increase social skills, communication and academics. Many articles also stress that intervention at its earliest point in time is the most beneficial.

Diet

Gluten and casein are both proteins broken down by the body, but different people have different reactions to them. Pennesi and Klein (2012) performed a study in the United States in which they surveyed 387 parents of children with autism on their opinions of the gluten-free/casein-free (GFCF) diet. In this particular study, the outcomes were positive for children whose diets were free of both gluten and casein. These children had a decrease in

problematic behaviors compared to other children with the same diagnosis whose diets were free of either gluten or casein. Within the GFCF group, those children who went off the diet more than twice did not see as many behavioral improvements as did the children who went off the diet two or fewer times. The greatest number of behavioral improvements was found in children who remained on the diet for 6 months or more. Other improvements were found for children who had previous gastrointestinal difficulties and allergies.

The relationship between diet and autism continues to be well known and has been considered by countries other than the United States, as well. Winburn et al. (2014) performed a similar study in the United Kingdom with 258 parents, but they also included 244 healthcare professionals. Most parents reported that they were using multiple interventions with their child, including diet restriction (not necessarily the GFCF diet). Many parents reported using dietary supplements and a diet, like the GFCF, together. As in the United States study, this study also showed improvements across many areas when the GFCF diet was in place for their child. Doctors and parents both reported needing more information about the GFCF diet, but they felt positively about it.

Medication

Although not typically on the top of the list for most parents, medication is still a treatment option for children. Leskovec, Rowles, and Findling (2008) reported that about one third of children with autism take a psychotropic medication. However, the medication is rarely used for a primary characteristic of autism. Parents generally look into medication when ADHD symptoms, irritability, aggression, obsessions/compulsions, and social dysfunction are evident. Methylphenidate and atomoxetine (used with hyperactivity) were found to be less effective for children with autism, but positive results were found for tricyclic antidepressants, venlafaxine, clonidine, guanfacine, donepezil, and galantamine.

Parents are cautioned against antipsychotics (although they decrease aggressive behaviors) because of their side effects. Antidepressants, such as selective serotonin reuptake inhibitors can be used for children's repetitive behaviors, such as their obsessions and compulsions.

Applied Behavior Analysis

Foxx (2008) summarized the uses of applied behavior analysis (ABA) with children with autism. He reported that ABA has been effective for numerous reasons, including all people with autism receive ABA in some form, ABA for children with autism has been used for more than 30 years old, and the National Institute of Mental Health has been supporting research on ABA for 40 years. Foxx cautioned against combining different ABA models to form a program because the person choosing the components may not choose the best models and the models often do not correlate with each other (Foxx 2008). ABA includes many factors, such as intensive work, one-on-one or small group instruction, focus on spontaneous skills, reinforcement, teaching children in trials, and providing assessments for teachers and other professionals (Foxx, 2008).

2.2.7 STATEMENT OF HYPOTHESIS

- There will be a significant relationship between teachers who have a family or a friend with Autism Spectrum Disorder and their knowledge of Autism Spectrum Disorder.
- There will be a significant relationship between teachers who have prior training about Autism Spectrum Disorder and their knowledge about Autism Spectrum Disorder.
- There will be a significant influence of teacher's age on knowledge about Autism Spectrum Disorder.
- School type will have a significant influence on teacher's knowledge about Autism

Spectrum Disorder.

- Teachers teaching experience will have a significant influence on their knowledge about ASD.

2.2.8 OPERATIONAL DEFINITION OF TERMS

Autism Spectrum Disorder: this is a developmental disorder characterized by troubles with social interaction and communication and by restricted and repetitive behavior (DSM-5, 2013).

Knowledge towards ASD: this refers to as facts, information and skills acquired through experience or education. (Oxford Dictionary 6th Edition).

Awareness towards ASD: this can be referred to as knowing that something exists. (Oxford Dictionary 6th Edition).

CHAPTER THREE

METHODOLOGY

This chapter represents the methodology and procedures that was employed in the collection of necessary data and relevant information pertinent to the study.

3.1. RESEARCH DESIGN

The research was a survey of teachers in Ekiti state. This study adopted a cross-sectional design to assess teachers knowledge and awareness of autism spectrum disorder, Cross-sectional design was used because validated psychological instruments was used to obtained data from the subset of the total population of teachers in Ekiti State and this study is also aimed to generalize the findings derived from the subset to the entire population.

3.2 SETTING.

The study was conducted in two local government areas in Ekiti State, which were chosen at random by the researcher. The local government area are

1. Ado local government area
2. Oye local government area

3.3 STUDY SAMPLE AND SAMPLE SIZE

The study samples were teachers in both primary and secondary schools in the Ado and Oye local government areas in Ekiti state. Teachers from both public and private secondary schools were selected. 4.7% of the respondents are teachers in Federal school, 67.3% are teachers in state owned school while 28% of the respondents are teachers in private owned school. 43.9% of the respondents fall in age bracket 25-35 years, 28% fall in age bracket 36-45 while 22.4% fall into age bracket 46 years & above. Religious affiliation shows that 95.3% of the respondents are Christians while 3.7% of the respondents are

affiliated with Muslim 35.5% of the respondents has <5years teaching experience, 42.1% fall into 5-15years teaching experience, while 19.6% fall into 16years & above.

The sample size of the study was 106 teachers selected from both private and government owned schools. The participants consisted of 30 males (28%) and 76 females (71%).

3.5 INSTRUMENTS

Data for the study was obtained using validated psychological instrument to collect information from the participants. The questionnaire consists of three separate instruments which included the socio-demographic information of the participants of the study. The instrument consists of five sections namely A, B and C.

3.5.1. Section A: DEMOGRAPHIC VARIABLES

This consists of items measuring socio-demographic information of the participants, such as gender, age, religion, ethnic group. Gender was reported as (male and female); age was represented as 25-35 years, 36-45 years, and 46 years and above; religious affiliation was reported as Christianity, Islam and Traditional; teachers teaching experience was reported as less than 5 years, 5-15 years and 16 years and above.

Respondents were to indicate a Yes or No response if they have any prior training and experience with Autism spectrum disorder and also to indicate if they have any family with Autism spectrum disorder.

3.5.2 SECTION B- Questionnaire Item on Autism Awareness.

This scale consists of five questionnaire items, aimed at knowing if the teachers are aware of Autism spectrum disorder, The questions are.

1. Have you heard of Autism Spectrum Disorder (ASD)? (A) Yes (B) No.
2. Where did you first heard/read about ASD
3. Have you been trained to identify a child with ASD
4. Were you trained on identifying a Child with ASD?
5. Can you identify a child with ASD? (A) yes (b) no

3.5.3 SECTION C - The Survey Of Knowledge Of Autism Spectrum Disorder (Ask-ASD)

The scale consists of 51 True or False questions, each of which fell into one of five homogenous item composites: etiology, epidemiology, symptoms, diagnosis, and prognosis/treatment. These areas were chosen to ensure that the item pool adequately defined all aspects of ASD.

Rating/ scoring and administration

After indicating whether each statement was True or False, participant confidence is rated in each answer on a Likert scale, with answers: 1-Not At All Confident, 2-Confident, and 3-Very Confident. True/False items are rated as 1 = correct and 0 = incorrect

Internal consistency

Reliability of the scale was assessed two ways: internal consistency and temporal stability. Internal consistency for the total actual knowledge scale, total perceived knowledge scale, and the two subscales within both actual knowledge and perceived knowledge was evaluated using Cronbach's alpha. For actual knowledge, alpha scores ranged from .57 to .61 for the

total scale and subscales. Additionally, intra-class correlation coefficients (ICCs) were calculated between each of the subscales and the total scale to further examine internal consistency. Average measures ICCs between the actual knowledge total scale and subscales were moderately reliable, ranging from .68 to .77 ($p < .001$).

Temporal stability

To evaluate temporal stability, bivariate correlations were calculated between the first and second administrations, providing a test-retest coefficient for both the individual subscales and the total scale. For both actual and perceived knowledge, all bivariate correlations between total scales at time 1 and time 2 were significant, $r(64) = .63$, $p < .001$; $r(64) = .69$, $p < .001$, respectively. Finally, as further evidence of the reliability of the measure, internal consistencies were re-examined by calculating the alpha coefficients for the subscales and the total scale from the second administration as another estimate of internal consistency of the measure. Alpha coefficients for total scale and subscales of actual knowledge for the second administration ranged from .58 to .67, indicating adequate reliability for this stage of measure development (Nunnally, 1978).

Validity

To support the validity of the ASK-ASD, total actual knowledge was correlated with other measures of knowledge of a medical disease (HIV/AIDS), as well as a psychological disorder. Correlations between experience with an individual with ASD and the ASK-ASD provided further evidence of validity.

3.6 PROCEDURES

The researcher began the research by obtaining a letter of introduction (Appendix 1) from the department, certifying that the researcher is an undergraduate student of Federal University Oye-Ekiti in the Department of Psychology that his research topic has been

approved by the Department of Psychology and also to be rendered any assistance, this letter was taken to the Ministry of Education, Science and Technology in phase IV, new secretariat, Ado-Ekiti in Ekiti State, Nigeria where data as regards the number of teachers per local government area in Ekiti State(Appendix 2) was obtained and also an ethical letter of approval (Appendix 3) to conduct research in schools.

The researcher also took the letter of introduction to State Universal Basic Education Board (the body in charge of Primary education) in stadium road, Okesa, Ado-Ekiti, Ekiti State Nigeria Data obtained include the numbers of teachers per local government area (Appendix 2) and also Letter of introduction on request of data from schools.

The validated psychological instrument was administered to the participants in their regular teaching classrooms and offices by the researcher. The researcher gave out the consent (Appendix 4) form and explained to the participants the purpose and the importance of their participation in this study. In addition, the researcher assured the participants of the confidentiality of their response and that their response would be used only for research purposes. Then, the question booklets (Appendix 5) were distributed and instructions were given to the participants on how to answer them. After collation of all questionnaire booklets from the various schools of study, the participants' responses were then scored, coded and were entered into the computer using SPSS spreadsheets for statistical analysis. The data were analyzed using the Statistical package for social sciences (SPSS) version 20.

3.7 STATISTICAL METHODS

Data obtained were analyzed using the Statistical Package for the Social Sciences (SPSS) and software package version 20. Demographical variables of the respondents were analyzed using descriptive statistics. Hypotheses were tested using inferential statistics. Hypotheses one and two were tested using Pearson correlation, while hypotheses three, four

and five were tested using analysis of variance (ANOVA). The p-value of 0.05 was used for test of statistical significance.

3.8 ETHICAL CONSIDERATION

An ethical issue of assurance was given to participants on basis of confidentiality and discretion of the study. Participants were also told about nature of the study and also that the study is not one that they must partook of if they don't want to be part of it, and also participants were informed that the data can be published in a way that doesn't concern them.

3.9. SAMPLING TECHNIQUES

The sampling technique that was employed in this research was Multi-stage sampling technique.

First stage, There are 16 local government areas in Ekiti State, with the use of balloting two were randomly selected, the two local government area that were selected are Oye and Ado Ekiti local government area. There are both primary and secondary school in the areas selected of which those schools are also represented in both private and public sector.

Second stage, the schools were chosen using convenience sampling technique, this was employed based on the data available with the researcher as list of the numbers of schools per local government area were not provided by the body responsible for them.

Third stages, teachers in the schools were selected using random sampling by balloting, they all had equal chances to participate in the research. Papers well rolled in Yes or No , those who picked Yes participate and those who picked No did not participate .

CHAPTER FOUR

RESULTS

This chapter deals with the data analysis and interpretation of results as acquired from the statistical result output. The data collected from all participants were coded, entered into the SPSS spreadsheets, and analyzed using software package SPSS version 20. Descriptive statistics for all variables in the study were examined using SPSS frequencies. The results of the study are however addressed by each hypothesis.

Table 1: Frequency Table Showing Demographic Characteristics of Respondents'

Demographics Variables	Frequency	Percentage
	n	(%)
Age		
25-35	47	43.9
36-45	30	28.0
46&above	24	22.4
Total	101	94.4
Gender		
Male	30	28.0
Female	76	71.0
Total	106	99.1
Religion		
Christianity	102	95.3
Islam	4	3.7
Total	106	99.1
Teaching Experience		
<5years	38	35.5
5-15years	45	42.1

16years & above	21	19.6
Total	104	97.2
School Type		
Federal	5	4.7
State	72	67.3
Private	30	28.0
Total	107	100.0

The table above revealed that 5 (4.7%) of the respondents are teachers in Federal school, 72 (67.3%) are teachers in state owned school while 30 (28%) of the respondents are teachers in private owned school. 47 (43.9%) of the respondents fall in age bracket 25-35years, while 24 (22.4%) of the respondents' fall into age bracket 46& above. The table also revealed that 30 (28%) of the respondents are males while 76 (71%) of the respondents are females, 102(95.3%)Christians, and 4 (3.7%) Islam. Out of the 107 (100%) of the total number of respondents' 38(35.5%) has <5 years. teaching experience, while 21(19.6%) fall into 16years& above teaching experience.

Table 2: Pearson Correlation Summary Table Showing The Relationship Between Teachers Who Have A Relationship With Autistic Children And Knowledge About ASD.

	Relationship with people with Autism	Knowledge of Autism Spectrum Disorder
Pearson Correlation	1	
Relationship with children with AUTISM Sig. (2-tailed)		
N	105	105

Knowledge of Autism Spectrum Disorder	Pearson Correlation	-.113	1
	Sig. (2-tailed)		

The table above revealed that there is no significant relationship between Knowledge of ASD and respondents having relationship with children who have Autism Spectrum Disorder ($r(105) = -.113$ $p > .05$).

Table 3: - Pearson Correlation Summary Table Showing The Relationship Between Prior Training And Knowledge Of ASD.

		Knowledge of Autism Spectrum Disorder	Prior Training on Autism
Knowledge of Autism Spectrum Disorder	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	107	
Prior Training on Autism	Pearson Correlation	-.266**	1
	Sig. (2-tailed)	.008	

Table 3 above revealed that there is a significant relationship between knowledge of ASD and Prior training on Autism ($r(107) = -.266$ $p < .05$)

Table 4: One Way ANOVA Showing the Influence of Age on Knowledge of ASD

ANOVA

Knowledge of Autism Spectrum Disorder

	Sum of Squares	df	Mean Square	f	sig.
Between Groups	764.874	2	382.437	4.299	.016
Within Groups	8718.373	98	88.963		
Total	9483.248	100			

Table 4 above revealed age has a significant influence on knowledge of ASD ($F(2, 98) = 4.29$ $p < .05$).

Table 5: One way ANOVA showing the influence of school type on ASD

ANOVA

Knowledge of Autism Spectrum Disorder

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	453.065	2	226.533	2.506	.087
Within Groups	9402.075	104	90.405		
Total	9855.140	106			

Table 5 above shows that school type does not have a significant influence on knowledge of ASD ($F(2, 104) = 2.506$ $p > .05$).

Table 6 - One way ANOVA Showing the Influence of Teaching Experience on Knowledge on ASD.

ANOVA

Knowledge of ASD

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	363.332	2	181.666	1.971	.144
Within Groups	9491.272	103	92.148		
Total	9854.604	105			

The table above revealed that teaching experience does not have a significant influence on knowledge of ASD $F(2,103) = 1.971$ $p > .05$.

Table 7 - Demographic details showing the awareness about ASD.

Respondents	Frequency	Percentage (%)
Aware	103	96.2
Not-aware	4	3.8
Total	107	100

Table 7 above revealed that 96.2% of the respondents said they were aware of ASD while 3.8% of the respondents were not aware.

Table 8 – Descriptive Table Showing the respondent Approach at Which They Got Aware of ASD.

Approach	Frequency (n)	Percentage (%)
Television/Radio	30	28
Newspaper	10	9

Teachers College/School	58	54
Journals	5	4.6
Others	4	4.4

Table 8 above revealed that majority of the respondents 58 (54%) got aware of ASD in teachers college or school only few 5 (4.6%) seek information or got aware of ASD from the journals.

CHAPTER FIVE

5.1 DISCUSSION

This study investigated the knowledge and awareness of Autism Spectrum Disorder among school teachers in Ekiti State.

This study revealed that teacher's knowledge of Autism Spectrum Disorder has no significant relationship between teachers who have relationship with children diagnosed with Autism Spectrum Disorder. This reveals that teachers, who have a relationship with an individual with autism spectrum disorder, do not possess a significant amount of knowledge of ASD. This is in contrast to the findings of Nicole Jones (2015) on her study about Teachers' Perceptions of Autism Spectrum Disorder: An Analysis of the Relationship Among Teachers' Knowledge, Exposure, and Attitudes, The results showed that if a person has no training and no experience with autism, his or her scores will not differ significantly from those of a person who has had all three types of training and knows someone at work and at home who has ASD. Also in a study conducted by Ling, Mak, and Cheng in 2010 in which they surveyed 123 workers in Hong Kong schools to determine the staff's knowledge, training, experience, and emotions related to autism, the level of special-education training and the duration of time spent with children with autism were not found to be significantly related to the person's knowledge.

This study also shows teachers who have prior training and experience with ASD reveals that there is a significant relationship between knowledge of ASD and prior training on Autism. This is in contrast of the findings of Nicole Jones (2015) findings in examining Teachers' Perceptions of Autism Spectrum Disorder: An Analysis of the Relationship Among Teachers' Knowledge, Exposure, and Attitudes, she discovered that in terms of causality, no relationship was found between experience, training level, and perception of causality of

autism spectrum disorder. However this study discovered that there is a significant relationship between prior training and experience on Autism Spectrum Disorder and Knowledge about ASD, although this does not explain causality, that is because of the prior training and experience of teachers in Autism Spectrum Disorder, this contributed to them having knowledge about the disorder, however it does reveals that both share a positive relationship. The study conducted by Edward Geraldina in 2015 on Teachers' knowledge and perceived challenges of teaching children with autism in Tanzanian regular primary school revealed that not only do teachers lack knowledge about ASD, but they also lack in-service training and seminar about ASD with contributed to their poor knowledge about the disorder. However, training is aimed at seeking for knowledge, this shows the validity of the prior training the teachers had, that it contributed to their knowledge about Autism Spectrum Disorder.

This study's investigation on the influence of age on teacher's Autism Spectrum Disorder knowledge revealed that age has a significant influence on teachers knowledge of Autism Spectrum Disorder. This reveals that as one is growing there a certain knowledge that is acquired during the process, thus teachers age contributed to their knowledge about autism spectrum disorder.

The examination to determine if school type will have an influence on teachers knowledge of ASD reveals that school type has no significant influence on teachers knowledge about ASD, in other words the various school type teachers (Federal, State and Private)are not a criteria for teachers to acquire knowledge about ASD. The study conducted on Awareness Regarding Autism in Schools' Teachers at District Lower Dir, Khyber Pakhtunkhwa, Pakistan in 2015 reveals that teachers from both sector (private and public) lacks knowledge about ASD, however teachers from public sector were better off than

teachers from the private sector. This shows a little influence of school type on knowledge of ASD, however this is in contrast of what the researcher for this study discovered.

The study shows that the influence of teachers teaching experience on their knowledge about ASD, this study revealed that teachers teaching experience does not have a significant influence on their knowledge about ASD, in other words the number of years teachers have spent teaching is not a determinant for them to acquire knowledge about ASD. This supported the findings of Nicole Jones in 2015, who discovered that there is no relationship between teachers teaching experience and their knowledge about ASD.

The study also revealed that 96.2% of the respondents are aware of ASD as over 89% of the respondents reported that they have independently researched on the disorder in order to understand it while 3.8% of the respondents are not aware of Autism Spectrum Disorder, it also revealed that 28% of the respondents got aware of ASD through watching television and listening to radio, 9% became aware through the reading of newspaper, 54% of the respondents became aware of ASD while in teachers college/school, while 4.6% and 4.4% of the teachers became aware of ASD through by reading journals and others respectively.

5.2 CONCLUSION

Having discussed the result of this study, it can be concluded that

1. There is no significant relationship between teachers who know someone with ASD and their knowledge of ASD.
2. Prior training on ASD has a significant relationship with teachers knowledge about ASD.
3. Teachers age has a significant influence on their knowledge about ASD.
4. School type does not have a significant influence on teachers knowledge about ASD.

5. Teachers teaching experience does not have a significant influence on their knowledge about ASD.
6. It can also be concluded that 96.2% of the respondents are aware of ASD while 3.8% of the respondents are not aware.

5.3. IMPLICATION AND RECOMMENDATIONS

It is appropriate for teachers to have knowledge about ASD, as this will eliminate a lot of misconceptions and stigmatization of certain students who are considered to be 'dull' or possessed by demons. The role of a school psychologist should not be downplayed, as they are specifically trained in the areas of autism, and they should consider creating trainings for and other types of communication to help teachers further their knowledge of the disorder. School psychologist can pass out pamphlets, brochures, and fact sheets; they can hold meetings and trainings for staff and parents. All of these means of communication can disperse knowledge quickly and efficiently. The school psychologist may even plan a monthly workshop to which staff and parents are invited to work with each other, while gaining important information about how to help their children.

However, based on the findings and drawn conclusion of this study, the following recommendations were suggested

1. Since it was established in this study that there is no relationship between knowing someone with ASD and having knowledge about ASD, more emphasis should be placed on offering teachers direct knowledge (training) about the disorder, this can be achieved by the school management, ministry of education and the federal government.
2. Since it was established that there is a relationship between teachers who have a prior training on ASD and also those who have experience, more seminars should be

organized by primary and secondary school management so as to equip teachers about the nature of ASD which include, the etiology, epidemiology, symptoms, diagnosis, and prognosis/treatment.

3. Since it was established that school type does not have an influence on knowledge about ASD, administrators from both sectors need to create a standard curriculum for educating teachers.

Researches that will be conducted in the future for educators should emphasize the importance of understanding interventions and knowing which interventions are appropriate and beneficial for the child. Future research may also assess teachers' years of teaching experience in relation to their knowledge about ASD. Research may also wish to consider the knowledge of parents and pediatricians or psychiatrists. Parents work with the child daily on all different skills outside (and even inside) of school, as they are a vital part of their child's school team. Pediatricians and psychiatrists usually make a diagnosis. Staff on the school team who are trained specifically in ASD (i.e., school psychologists, speech-language therapists, occupational therapists, and physical therapists) be employed and should consider preparing professional development presentations and other forms of communication for their school teams to help increase their accurate knowledge of autism.

5.4. LIMITATIONS OF STUDY

The study only occurred in two local government area In the state , Further studies should consider using a larger sample size and also multiple local government area in Ekiti State so as to establish a higher level of ecological validity.

Most of the teachers that were assessed were females, there is a wide gap between male and female teachers, as more females were assessed in this study, as this does not strike balance in the study, as participants could have been assessed based on gender.

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Appendix 1
Introduction letter

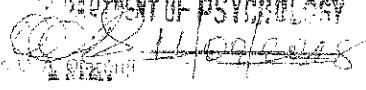
FEDERAL UNIVERSITY OYE-EKITI
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF PSYCHOLOGY

LETTER OF INTRODUCTION

This is to certify that **Ada Michael Azegboye** with the Matric. Number **PSY/14/2026** is an undergraduate student of the Department of Psychology Federal University Oye-Ekiti, Ekiti State. He is presently carrying out his B.Sc. research on **Knowledge and Awareness of Autism Spectrum Disorder among school teachers in Ekiti State.**

The research has been approved for study by the above named Department.
Please render him the necessary assistance in carrying out the research.

With your kind consideration,

DEPARTMENT OF PSYCHOLOGY

Coordinator Psychology Department.

Appendix2
Number of teachers per LGA

**SUBREG SUMMARY OF TEACHERS NOMINAL ROLL AS AT
JULY 2018**

S/N	LGA	GOVERNMENT AREA	NUMBER OF SCHOOLS	NUMBER OF TEACHERS
1	Ado		99	1661
2	Ajilomogbo		31	347
3	Alimosho		57	601
4	Alimosho West		63	525
5	Alimosho East		70	479
6	Aradju		38	360
7	Awka		52	383
8	Awka West		52	681
9	Awka East		82	611
10	Awka North		48	604
11	Awka South		81	659
12	Awka South West		22	195
13	Awka South East		53	703
14	Awka North West		46	732
15	Awka North East		37	375
16	Awka South West		66	526
	TOTAL		897	9192

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY, AIG, HETI, PLANNING RESEARCH AND STATISTICS DEPARTMENT
SUMMARY OF SECONDARY SCHOOLS ENROLLMENT FOR 2017/18 SESSION

LOCAL GOVERNMENT 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Appendix3 Ethical Approval



MINISTRY OF EDUCATION, SCIENCE & TECHNOLOGY
EKITI STATE OF NIGERIA
PHASE IV, NEW SECRETARIAT, ADO-EKITI,
SCHOOLS DEPARTMENT

Your Ref. No.
All Communication should be addressed to
The Permanent Secretary Quoting:
EK/ED/SCHLS/111/53

5th July, 2018.

Circular letter to:
All Principals of Public Secondary Schools
All Principals of Government and Science Colleges
All Principals of Private Secondary Schools
All Head Teachers of Public Primary Schools
All Head Teachers of Private Primary Schools

APPROVAL TO CONDUCT RESEARCH IN SCHOOLS

I am directed to inform you that the bearer - Mr. Auta Micheal Azegbeye, a 400 student of the Federal University, Oye Ekiti has been granted approval by the Ekiti State Ministry of Education, Science and Technology to visit Public / Private Primary and Secondary Schools in Ekiti State for the conduct of his thesis.

2. In view of the above, you are enjoined to give him maximum support and cooperation required in the course of his research activities, as the exercise is purely for academic purpose.

3. Thank you.



E. A. Darumola

For: Permanent Secretary

Appendix4
Consent form

Dear respondent,

This study is conducted by AUTA MICHAEL AZEGBEYE, an undergraduate student in the department of psychology, Federal University Oye-Ekiti.

Please note that your answers will be confidential and NOT disclosed to anyone else. Your sincere answers will be highly appreciated.

Thanks for your co-operation

Consent form

I agree to participate in the study. I understand that I am free to withdraw my participation if need be and without giving any reason, I agree that the data gathered from this study may be published in a form that does not identify me in any way.

Please express your interest to participate in this study by ticking 'yes' or 'no' below.

I agree to participate: Yes () No ()

**Appendix 5
Questionnaire**

SECTION A

Name of School.....

School Type: Federal () State () Private () **Town**.....

Age: 25 – 35years () 36 – 45years () 46years and above () **Gender:** Male () Female ()

Ethnic group: Yoruba () Igbo () Hausa () others ()

Religious Affiliations: Christianity () Islam () Traditional ()

Teaching Experience: Less than 5yers () 5 – 15 years () 16 years and above ()

Do you have any prior training and experience with (AUTISM SPECTRUM DISORDER) ASD? (Yes/No)

Do you have a family or friend with ASD? (Yes/No)

SECTION B

For each of the following statements, please tick the option that best represents your answer.

1: Have you heard of Autism spectrum disorder (A) Yes (B) No?

2: Where did u first heard/read about ASD

(A) television/radio

(B) Newspaper

(C) Teachers college / school

(D) Journals

(E) Other..... (Specify)

3: Have u been trained to identify a child with ASD?

4: Where were u trained on identifying a Child with ASD?

- (a) Teachers college
- (b) on-job / in-service training
- (C) On-line
- (D) Never been trained
- (E) Other..... (Identify)

5: Can u identify a child with ASD? (A) Yes (b) no

SECTION C

Please designate the following statements regarding Autism Spectrum Disorder as True or False. For each answer, please indicate how certain you are of the accuracy of your response.

Please designate these statements as true or false.

Please rate your confidence in your answer.

Please tick in the box the right answer

S/N	ITEMS	True	False	Not at all confident	Confident	Very Confident
1	About 70% of children with ASD/autism have some other psychiatric condition in addition to autism.					
2	Adults can never be diagnosed with ASD/autism.					
3	ASD/autism can only be diagnosed after a child has entered preschool.					
4	ASD/autism cannot be diagnosed using biological markers (e.g., blood tests).					
5	An ASD/autism diagnosis is often based					

	on parental interviews and observations of behavior.					
6	If a teacher believes a student has ASD/autism, he or she can give an initial diagnosis.					
7	An individual can be diagnosed with both ASD/autism and intellectual disability (previously known as mental retardation).					
8	Only medical doctors can diagnose ASD/autism in children.					
9	A common initial concern of ASD/autism is failure to develop language.					
10	There is a specific gene that can be used to identify ASD/autism.					
11	About a quarter of children with ASD/autism lose skills they once had, such as babbling and use of words.					
12	ASD/autism affects about 1 in 150 children.					
13	ASD/autism is nearly five times as likely to occur in boys as girls.					
14	By adolescence, the rate of ASD/autism between males and females is equal.					
15	White children are more likely than Black or Hispanic children to be diagnosed with ASD/autism.					
16	Girls with ASD/autism are more likely to have severe behavioral issues and intellectual disability.					
17	Prevalence rates of ASD/autism are about the same from state to state.					
18	Studies estimate the prevalence of ASD/autism in children has risen about 30% since 2008.					

19	There is strong evidence for low income as a risk factor for ASD/autism.					
20	ASD/autism is contagious.					
21	Children with diets higher in sugars and processed foods show an increased risk of developing ASD/autism.					
22	. Living near an interstate during pregnancy increases the risk of having a child with ASD/autism.					
23	Most evidence suggests ASD/autism can be caused by vaccines.					
24	At one time, scientists believed ASD/autism was caused by lack of parental interest and motherly warmth					
25	Children with older parents have a higher risk of developing ASD/autism.					
26	Children with siblings who have ASD/autism have a higher risk of developing the disorder.					
27	Problems at birth (e.g., fetal distress, breech presentation) have been linked to ASD/autism.					
28	Conditions during pregnancy do not impact the development of ASD/autism among children.					
29	Large-scale studies support a link between season of birth and ASD/autism.					
30	Many scientists believe that ASD/autism is a product of uneven brain development					
31	There is no clear link between ASD/autism and genes.					
32	ASD/autism can be fatal over time.					
33	Early intervention can alleviate symptoms of ASD/autism and lead to improvements					

	in IQ, language, and social behaviors.					
34	About 75 percent of individuals with ASD/autism also meet criteria for obsessive compulsive disorder					
35	Nearly 2/3 of children with ASD have been prescribed one or more psychiatric medication					
36	One common treatment for ASD/autism is Applied Behavior Analysis.					
37	There are very few beneficial treatments available for individuals with ASD/autism.					
38	There is no strong evidence that a gluten-free or casein-free diet reduces the symptoms of ASD/autism.					
39	With support, therapy, and medication, ASD/autism can be cured.					
40	About 25% of individuals with ASD/autism remain nonverbal throughout their lives.					
41	After being diagnosed, ASD/autism symptoms remain stable throughout the individual's life.					
42	All individuals with ASD/autism have lower than average IQs.					
43	An early symptom of ASD/autism is a failure to attend to facial expressions, gestures, and speech.					
44	Because of their lower social awareness, children with ASD/autism rarely have anxiety disorders.					
45	Children with ASD/autism have patterns of play that are similar to their typically-developing peers.					

46	Children with ASD/autism often require fewer hours of sleep than typically developing children.					
47	Individuals with ASD/autism often engage in restrictive, repetitive behaviors (e.g., lining up cars, strictly adhering to schedules).					
48	Individuals with ASD/autism have difficulty interacting socially.					
49	Individuals with ASD/autism rarely form intimate relationships, even with their parents.					
50	Children with ASD/autism often fidget and squirm in their seats.					
51	Individuals with ASD/autism are often touchy and easily annoyed.					

APPENDIX 6

STATISTICAL RESULT OUTPUT

Frequency Table

School Type

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Federal	5	4.7	4.7	4.7
Valid State	72	67.3	67.3	72.0
Valid Private	30	28.0	28.0	100.0
Total	107	100.0	100.0	

Age

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 25-35	47	43.9	46.5	46.5
Valid 36-45	30	28.0	29.7	76.2
Valid 46&above	24	22.4	23.8	100.0
Total	101	94.4	100.0	
Missing System	6	5.6		
Total	107	100.0		

Gender

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	30	28.0	28.3	28.3
Valid Female	76	71.0	71.7	100.0
Total	106	99.1	100.0	
Missing System	1	.9		
Total	107	100.0		

Ethnic Group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yoruba	99	92.5	94.3	94.3
	Igbo	3	2.8	2.9	97.1
	Others	3	2.8	2.9	100.0
	Total	105	98.1	100.0	
Missing	System	2	1.9		
Total		107	100.0		

Religion

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Christianity	102	95.3	96.2	96.2
	Islam	4	3.7	3.8	100.0
	Total	106	99.1	100.0	
Missing	System	1	.9		
Total		107	100.0		

Teaching Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	<5years	38	35.5	36.5	36.5
	5-15years	45	42.1	43.3	79.8
	16years & above	21	19.6	20.2	100.0
	Total	104	97.2	100.0	
Missing	System	3	2.8		
Total		107	100.0		

CORRELATIONS

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/VARIABLES=Relatio AKH
/PRINT=TWOTAIL NOSIG
/STATISTICS DESCRIPTIVES
/MISSING=PAIRWISE.
    
```

Correlations

Notes

Output Created		12-NOV-2018 12:43:31
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	107
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.
Syntax		CORRELATIONS /VARIABLES=Relatio AKH /PRINT=TWOTAIL NOSIG /STATISTICS DESCRIPTIVES /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00.05
	Elapsed Time	00:00:01.14

[DataSet1]

Descriptive Statistics

	Mean	Std. Deviation	N
Relationship with people with autism	1.9143	.28128	105
Knowledge of Autism Spectrum Disorder	27.7290	9.64225	107

Correlations

		Relationship with people with autism	Knowledge of Autism Spectrum Disorder
Relationship with people with auTISM	Pearson Correlation	1	-.113
	Sig. (2-tailed)		.250
	N	105	105
Knolowgde of Autism Spectrum Disorder	Pearson Correlation	-.113	1
	Sig. (2-tailed)	.250	
	N	105	107

CORRELATIONS

```

/VARIABLES=AKH PRT
/PRINT=TWOTAIL NOSIG
/STATISTICS DESCRIPTIVES
/MISSING=PAIRWISE.

```

Correlations

Notes

Output Created		12-NOV-2018 12:44:17
Comments		
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Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each pair of variables are based on all the cases with valid data for that pair.

Syntax		CORRELATIONS /VARIABLES=AKH PRT /PRINT=TWOTAIL NOSIG /STATISTICS DESCRIPTIVES /MISSING=PAIRWISE.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.03

[DataSet1]

Descriptive Statistics

	Mean	Std. Deviation	N
Knolowgde of Autism Spectrum Disorder	27.7290	9.64225	107
Prior Training on Autism	1.8485	.36037	99

Correlations

		Knowledge of Autism Spectrum Disorder	Prior Training on Autism
Knolowgde of Autism Spectrum Disorder	Pearson Correlation	1	-.266**
	Sig. (2-tailed)		.008
	N	107	99
Prior Training on Autism	Pearson Correlation	-.266**	1
	Sig. (2-tailed)	.008	
	N	99	99

** . Correlation is significant at the 0.01 level (2-tailed).

ONEWAY AKH BY Age
/STATISTICS DESCRIPTIVES
/MISSING ANALYSIS.

One-way

Notes

Output Created		12-NOV-2018 12:47:00
Comments		
Input	Active Dataset	DataSet1
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	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	107
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on cases with no missing data for any variable in the analysis.
Syntax		ONEWAY AKH BY Age /STATISTICS DESCRIPTIVES /MISSING ANALYSIS.
Resources	Processor Time	00:00:00.02
	Elapsed Time	00:00:00.22

[DataSet1]

Descriptive

Knowledge of Autism Spectrum Disorder

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum
					Lower Bound	Upper Bound	
					25-35	47	
36-45	30	23.5000	12.60747	2.30180	18.7923	28.2077	.0
46&above	24	27.7083	8.83904	1.80426	23.9759	31.4407	9.0
Total	101	27.5050	9.73820	.96899	25.5825	29.4274	.0

ANOVA

Knowledge of Autism Spectrum Disorder

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	764.874	2	382.437	4.299	.016
Within Groups	8718.373	98	88.963		

Total	9483.248	100		
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ONEWAY AKH BY School
 /STATISTICS DESCRIPTIVES
 /MISSING ANALYSIS.

One-way

Notes

Output Created		12-NOV-2018 12:49:38
Comments		
Input	Active Dataset	DataSet1
	Filter	<none>
	Weight	<none>
	Split File	<none>
	N of Rows in Working Data File	107
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics for each analysis are based on cases with no missing data for any variable in the analysis.
Syntax		ONEWAY AKH BY School /STATISTICS DESCRIPTIVES /MISSING ANALYSIS.
Resources	Processor Time	00:00:00.00
	Elapsed Time	00:00:00.00

[DataSet1]

Descriptives

Knowledge of Autism Spectrum Disorder

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum
					Lower Bound	Upper Bound	
Federal	5	27.6000	6.91375	3.09192	19.0154	36.1846	19.00
State	72	26.3750	10.64066	1.25401	23.8746	28.8754	.00
Private	30	31.0000	6.35718	1.16066	28.6262	33.3738	21.00
Total	107	27.7290	9.64225	.93215	25.8809	29.5771	.00

ANOVA

Knowledge of Autism Spectrum Disorder

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	453.065	2	226.533	2.506	.087
Within Groups	9402.075	104	90.405		
Total	9855.140	106			